

Quality Management System

Quality Manual

ISO 9001-2015

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Change History

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					Current	New
01	01-01-2018	QMSM	The manual has been re-written in line with the practices at KLE Technological University and requirements of ISO 9001-2015	As a part of continuous improvement cycle	2.0	3.0

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
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Document No	QMSM-001-2018	Revision	3.0

Contents	
• Abbreviations	4
• Introduction	5
• Quality Framework	10
• Guiding Principles <ul style="list-style-type: none"> ○ Vision ○ Mission ○ Values ○ Quality Policy ○ Quality Objectives 	11
• Scope	13
• Normative Reference	13
• Terms and Definitions	13
• Context of the organization	14
• Leadership	17
• Planning	24
• Suppliers	25
• Operations	28
• Performance Evaluation	35
• Improvement	37

Abbreviations

KLE Tech	KLE Technological University
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KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

ISO	International Organisation for Standardisation
QMSM	Quality Management System Manual
QMS	Quality management System
QSP	Quality System Procedure
IQAC	Internal Quality Assurance Cell
CoE	Calendar of Events
CoA	Calendar of Activities
ISA	In Semester Assessment
ESA	End Semester Assessment
DUGC	Department Under Graduate Committee
DPGC	Department Post Graduate Committee
BOS	Board of Studies
PDCA	Plan-Do-Check-Act
AICTE	All India Council for Technical Education
ABET	Accreditation Board for Engineering & Technology
DTE	Director of Technical Education
UGC	University Grant Commission
NBA	National Board of Accreditation
MOU	Memorandum of Understanding
HoD	Head of the Department

Introduction

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

KLE Technological University (KLE Tech) has its roots in one of the premier engineering institution of Karnataka, B. V. Bhoomaraddi College of Engineering and Technology, Hubli (BVB). The founding organization KLE Society, Belgaum, established BVB College in 1947 with an aspiration of creating an institution that would lay the foundation of modern engineering education in northern region of Karnataka. Over the years, it evolved to reach and hold a unique position of pride in the technical education system of India. As we entered into the 21st century, the college undertook comprehensive reform process to adapt to the challenging global engineering education scenario. In pursuit of academic excellence, the college attained academic autonomy from University Grant Commission (UGC) in the year 2007. As an autonomous the college, BVB established its distinctive character in the academic space through its curriculum and outstanding student experience. Over the time it gained tremendous credibility with the industries and employers and emerged as a brand to reckon with. The Alumni of the Institute have done exceedingly well in all spheres of life at both national and international levels.

To meet the ever-changing demands of global engineering education and also to develop capacity in research and innovation, BVB College of Engineering and Technology, undertook strategic initiative of transforming itself into a University of national distinction. In 2014 the college was recognized as a state private University by Government of Karnataka. The rich heritage of BVB College as one of the best engineering college combined with brand equity of KLE Society are the starting points for KLE Technological University to emerge as a University with a national distinction.

The KLE Technological University started functioning from the academic year 2015-16. The University offers Undergraduate and Postgraduate programmes. The sanctioned intake of undergraduate programmes is 1140 and postgraduate programmes is 270.

The programmes offered by the University are as follows:

Undergraduate Programmes

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

1. Civil Engineering
2. Mechanical Engineering
3. Electrical & Electronics Engineering
4. Electronics & Communication Engineering
5. Computer Science & Engineering
6. Bio Technology
7. Automation and Robotics and
8. Architecture

Postgraduate Programmes

1. Structural Engineering
2. Energy Systems Engineering
3. Production Management
4. Computer Science & Engineering
5. Digital Electronics
6. VLSI Design & Testing
7. Machine Design
8. Master of Business Management (MBA)
9. Mater of Computer Applications (MCA)

PhD Programmes

University has started offering PhD programme from the year 2016 in 12 research centres.

A. Strategic Focus

In the transformation process, the University undertook following focussed strategic initiatives:

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

1. Building Distinctive Educational Experience

Major academic initiatives undertaken by the University are as follows:

- Adapting Outcome Based Educational framework
- Introduction of new courses to achieve higher level learning outcomes; with proper research and collaborations; examples
 - Social Innovation
 - Engineering exploration
 - Engineering design
 - Product design and realization
 - Research Experience for Undergraduates
 - Global immersion in Innovation & Entrepreneurship
- Moving towards Practice Based Curriculum
- Creating appropriate learning environments

2. Putting a strong foundation for Research and Development

Apart from delivering good quality education, the emerging Universities are expected to develop their capacity in research and innovation. To realize its aspirations, the University has undertaken following initiatives

- From the 2017-18; 5% of Revenue Income (Rs. 2.50 crores) of University is allotted for promoting Research and Development.
- Formation of Research Clusters and Research Groups to encourage interdisciplinary research
- Encouraging young faculty to develop research capacity; through Capacity building projects
- Introducing course 'Research Experience for Undergraduates', to inspire undergraduates to take up research career

To enhance teaching effectiveness and research relevance, the University is collaborating with several important Industries.

- a) Samsung R&D: Machine Learning, Deep Learning
- b) Microsoft, Juniper: Networking

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

- c) Continental: automotive electronics
- d) AEQUS: 'Aerospace Manufacturing Learning Centre

KLE Technological University has been short listed and recommended for Rs. 3.0 crores by DST for its project under Indian Heritage in Digital Space (IHDS)- ICP

3. Playing Generative role in regional Development

Apart from the traditional role of manpower development and research, the University is aiming to play an important role in the social and economic development of the region. In this direction it established 'Centre for Technology Innovation and Entrepreneurship (CTIE)' with a Vision 'To be a Pioneer to Foster, Enable and Grow the Innovation and Entrepreneurial Ecosystem in Tier-2 Cities'. Today, KLE Tech-CTIE has emerged as a unique model for tier-II cities, having 38 start-ups at its University campus. It has also incubated two companies with more than 100 crore valuations. More than 500 engineering jobs in the region have been created by the companies incubated in the campus. The centre is also recognised as a TBI by DST.

The University has created 'Makers-Space', a facility to promote product development and realization eco-system on the campus to enable the dream of 'Make In India'.

C. Recognitions:

1. KLE Tech awarded by IUCEE

KLE Tech awarded as Ranked No 1 for "Outstanding Institutional Transformation in Engineering Education" by IUCEE (India US Collaboration for Engineering Education) for the two consecutive years.

2. TBI Recognition by DST

KLE CTIE has been recognized as Technology Business Incubator (TBI) by Department of Science and Technology, GOI, and a grant of Rs. 3.40 Crores has been sanctioned.

3. IESA - NETRA

KLE Tech is Chosen as the first campus in India to pilot National ESDM Technology Research Academy (NETRA) initiative by IESA (Indian Electronics and Semiconductor Association). KBITS (Government of Karnataka) has Sanctioned IESA, 4.00 Crores to setup and run NETRA at KLE Tech

4. ELEVATE 100

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

Three of the CTIE incubatees have been awarded with ELEVATE 100 funding of up to Rs.50 lakhs each from Govt. of Karnataka.

5. Biotechnology Skill Enhancement Programme

The Department of Biotechnology of KLE Tech has been chosen as one of the host institution by KBITS to run its flagship BiSEP program for the Fermentation and Bioprocess domain. KBITS has sanction 1.00 crore for the initiative.

6. MIT Study report

Appeared in recent MIT Study report 'The global state-of-the-art in engineering education', as one of the four institutions in the world as 'places to watch for future

01st January,2018

Dr. Ashok S Shettar
Vice Chancellor

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

The quality management system manual defines the quality framework for KLE Tech's Quality Management System Practices. This quality management system is applicable to all the programs and the Process-groups within KLE Tech.

The quality framework is composed of the following:

- a. Guiding Principles in the form of Vision, Mission and Values,
- b. Quality Policy,
- c. Quality Management System model.

The quality framework provides a common direction and approach for quality management in KLE Tech.

The purpose of the quality management system is to;

- demonstrate its ability to consistently impart knowledge that meets customer and applicable statutory and regulatory requirements, and
- enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

Our Vision

KLE Technological University will be a national leader in Higher Education –recognized globally for innovative culture, outstanding student experience, research excellence and social impact.

Our Mission

KLE Technological University is dedicated to teaching that meets highest standards of excellence, generation and application of new knowledge through research and creative endeavors.

The three-fold mission of the University is:

- *To offer undergraduate and post-graduate programs with engaged and experiential learning environment enriched by high quality instruction, that prepares students to succeed in their lives and professional careers.*
- *To enable and grow disciplinary and inter-disciplinary areas of research, that build on present strengths and future opportunities aligning with areas of national strategic importance and priority.*
- *To actively engage in Socio-economic development of the region, by contributing our expertise, experience and leadership, to enhance competitiveness and quality of life.*

As a unified community of faculty, staff and students, we work together with the spirit of collaboration and partnership to accomplish our mission.

Values

In pursuit of our vision, we commit ourselves to five guiding values:

1. Student Focus: Putting students at the heart of our enterprise, we have the responsibility to prepare them to achieve their highest potential. Our success is measured by the success of our students.
2. Excellence: Achieving highest quality in what we do through diligent effort, both individual and collective.
3. Leadership: Developing the visions and strategies for a desired future, and aligning and energizing people to achieve those visions.
4. Learning Centered Culture: Commitment to learn, adapt and change as a means to continuous improvement.
5. Stewardship: Ensuring our programs and services add value to our students and society and operate in accordance with the public trust placed in us.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

Quality Policy

KLE Technological University is committed to provide engaged and experiential learning environment enriched by quality instruction to enable students to grow towards their full potential and meet the expectations of Industry and Society

Quality Objectives

- i. To ensure high student achievement in academics.
 - ii. To provide a value added education to make students more employable.
 - iii. To provide adequate and well qualified staff who will contribute effectively to student learning and organizational development.
 - iv. To continually improve student services to promote overall development of student and support systems to create an ambience conducive to learning.
 - v. To evolve and implement management and administrative mechanisms that are responsive, reliable and efficient.
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1. Scope

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

The scope of certification is as follows:

“Providing Technical Education Services Leading to Bachelor’s Degree in Engineering, Architecture and Master’s Degree in Technology and Business administration”

2. Normative References

- ISO 9001-2015
- ISO 9004-2005
- Regulations Governing Engineering Programs
- AICTE/UGC Guidelines

3. Terms and definitions

- For the purposes of this quality management system, the terms and definitions given in ISO 9000 apply.
- Local terms that are unique to the organization and are used within this manual:

TERM	EXPLANATION
Products & Services	Delivery of information, new knowledge and know how
Customers	Students of KLE Tech
Interested Parties	<ul style="list-style-type: none"> • Students • Faculty of KLE Tech • Parents • College Management • Placement companies • Government and • Society at large
External Provider	Supplier of equipment / products
Product Realization	Education Delivery Process
Key Processes	<ul style="list-style-type: none"> • Curricular Design & Development • Education Delivery • Student Services • Support Services • Quality Management System

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

4. Context of the organization

4.1 *Understanding the Organization and Its Context*

KLE Tech has reviewed and analysed key aspects of itself and its stakeholders to determine the strategic direction of the university. This requires understanding of internal and external issues that are of concern to KLE Tech and its interested parties; the interested parties are identified per the document ANTM0101

Such issues are monitored and updated as appropriate, and discussed as part of management reviews.

4.2 *Understanding the Needs and Expectations of Interested Parties*

The issues determined per 4.1 above are identified through an analysis of risks facing KLE Tech and its interested parties. "Interested parties" are those stakeholders who receive our Services , or who may be impacted by them, or those parties who may otherwise have a significant interest in our company. These parties are identified per the document ANTM0102

This information is then used by top management to determine the company's strategic direction. This is defined in records of management review, and periodically updated as conditions and situations change.

4.3 *Determining the Scope of the Quality Management System*

Based on an analysis of the above issues of concern, interests of stakeholders, and in consideration of its products and services, KLE Tech has determined the scope of the management system as follows:

"Providing Technical Education Services Leading to Bachelor's Degree in Engineering, Architecture and Master's Degree in Technology and Business administration"

The quality system applies to all processes defined KLE Technological University.

The company claims no exclusions from the ISO 9001 standard.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

4.4 *Quality Management System and Its Processes*

4.4.1 Quality System Model of KLE Tech

Based on the concepts of Quality, Process Management, and Continuous Process Improvement, KLE Tech has adopted a closed-loop model for the QMS. This model interlinks the major organizational processes and, their measurement, monitoring and analysis to achieve planned results and continual improvement and hence enhancing student satisfaction. (Refer Annexure ANQML101 for Process Model of KLE Tech QMS).

KLE Tech has identified key process areas, which are of paramount importance in achieving organizational effectiveness in delivering its services, and connects them to quality objectives set forth. Under each key process area, sub processes have been identified at institutional level and unit levels.

The QMS applies to 5 key process areas i.e. curricular design and development, education delivery, student and support services and quality management throughout the institution. (Refer Annexure ANQML102 for Key Processes of KLE Tech QMS)

a. Curriculum Design and Development

This is the process defining Plan, Review, Verify, Validate the curriculum design and development of UG/PG programs of KLE Tech to meet product and process performance realization expected by students and other interested parties. The process is detailed in QSP 20

b. Education delivery

This is a set of interrelated activities involved in teaching, learning as well as creating, maintaining and releasing all associated documentation. This includes the processes:

- i. Term planning (QSP02)
- ii. Teaching planning (QSP03)
- iii. Course Monitoring (QSP04)

b. Student services

These are the services, which augment teaching and learning process. The processes are:

- i. Human Resources Training (QSP06)
- ii. Library Management (QSP10)

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

c. Support services

These are the organization's key processes that support the daily operations as an educational institution, faculty and staff in delivering educational programmes and student services. The processes are:

- i. Placement (QSP05)
- ii. Admission (QSP09)
- iii. Infrastructure Management and Purchase (QSP08)
- iv. Examinations (QSP07)
- v. Information Services (QSP18)
- vi. Physical Education (QSP 19)

d. Quality Management

This includes all activities of the overall management function that determine and implement the quality policy, quality objectives and responsibilities based on a closed-loop corrective action process with continual improvement. The processes include:

- i. Management Responsibility (QSP01)
- ii. Document Control (QSP11)
- iii. Control of Records (QSP12)
- iv. Measurement, Analysis and Improvement (QSP13)
- v. Internal Audit (QSP14)
- vi. Control of Non-conformances (QSP15)
- vii. Corrective & Preventive Actions (QSP16)
- viii. Quality System (QSP17)

By effectively executing the processes and instituting process controls, it is assured that the results will enhance student and stakeholders' satisfaction. The corrective and preventive actions systems provide the mechanism for improving the performance of the processes.

The quality management system defines the

- o criteria and methods needed to ensure that both the operation and control of processes are effective;

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

- necessary resources that are required to support the operation of the quality management system; and
- monitoring, measurement (where applicable) and analysis of the processes.

In operating the quality management system, the organization is committed to continually improve its effectiveness in meeting its objectives.

5.0 Leadership

5.1 Leadership & Commitment

5.1.1 General

Management of KLE Tech provides evidence of its leadership and commitment to the development and implementation of the management system and continually improving its effectiveness by:

- taking accountability of the effectiveness of the management system;
- ensuring that the Quality Policy and Quality Objectives are established for the management system and are compatible with the strategic direction and the context of the organization
- ensuring the integration of the management system requirements into the organization's other processes, as deemed appropriate
- promoting awareness of the process approach
- ensuring that the resources needed for the management system are available
- communicating the importance of effective quality management and of conforming to the management system requirements
- ensuring that the management system achieves its intended results
- engaging, directing and supporting persons to contribute to the effectiveness of the management system
- promoting continual improvement
- supporting other relevant management roles to demonstrate their leadership as

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

it applies to their areas of responsibility.

5.1.2 Customer focus

KLE Tech ensures that customer needs and expectations are determined, converted into requirements and are met with the aim of enhancing customer satisfaction.

This is accomplished by assuring:

- customer and applicable statutory and regulatory requirements are determined, understood and consistently met
- the risks and opportunities that can affect conformity of products and services and the ability to enhance customer satisfaction are determined and addressed.
- the focus on enhancing customer satisfaction is maintained.

5.2 Policy

Top management has established a quality policy that states the organization's position regarding product quality.

KLE Tech commits to implement this policy through the following courses of action:

- Clearly understand student and industry needs and provide services that meet those needs
- Integrate quality management principles and methodologies into all the processes, practices and policies
- Continuously improve the effectiveness of the QMS, processes and services, to enhance their value for the students and stakeholders
- Maintain QMS to conform to the requirements of ISO 9001-2015
- Comply with relevant regulatory requirements.

The quality policy also provides a framework for establishing and reviewing quality objectives.

Top management ensures that the quality policy is communicated and understood within the organization, and is reviewed for continuing suitability.

It is appropriate to the purpose of the organization and includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

5.3 Organizational Roles Responsibilities and Authorities

Top management KLE Tech constitutes the Vice-Chancellor, Registrar, Deans-academic affairs, Dean- planning and development, Dean-Research & Development, Dean- Students Affairs, Dean- Assessment & Evaluation, Controller of Examination, all the Program Heads and other members appointed by the Vice-Chancellor.

KLE Tech top management maintains an organization chart that defines the roles of personnel who manage, perform, and verify work-affecting quality. Quality assurance activities performed by the individual process owner will be in accordance with documented procedures defining the task, responsibility, requirements, and necessary training. (Refer Annexure ANTM0103 for KLE Tech organization structure).

The management of KLE Tech incorporates a process oriented organization structure. This structure is a medium through which the management support is realized. It involves empowering Program Heads , Cell Coordinators and coordinators of other teaching-learning related committees with well-defined authorities and responsibilities, detailing them in job descriptions. The length and breadth of this empowerment and the authorities stipulated cover processes such as approving teaching-learning modules, selecting, validating and recommending appropriate staff to oversee vital activities.

Roles & Responsibilities

Role	Responsibilities
Vice Chancellor	The Vice-Chancellor shall be a whole-time Principal Executive and Academic Officer of the University. The Vice-Chancellor shall exercise general supervision and control over the affairs of the University. The Vice-Chancellor shall exercise all powers necessary for the maintenance of discipline in the University.
Registrar	The Registrar shall be a whole-time salaried Officer of the University. The Registrar shall conduct all the official correspondence and shall be the official signatory on behalf of the University, with the approval of the Vice-Chancellor. The Registrar shall assist the Vice-Chancellor to give effect to the decisions of the Authorities of the University.
Deans	Deans shall be appointed by the Vice- Chancellor. Deans shall be

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

	<p>chosen from amongst the Professors of the University based on their background, proven track record, leadership qualities. They shall perform such functions and duties as assigned by the Vice-Chancellor.</p> <p>There shall be:</p> <ol style="list-style-type: none"> i. Dean- Academics Affairs ii. Dean Research & Development iii. Dean Planning & Development iv. Dean Student Affairs
Controller of Examinations	<p>Announce the schedule of ESA as per the dates defined in the academic calendar</p> <p>Organize setting of question paper, schemes of evaluation and solution, scrutiny of question paper, printing of question paper and stationary</p> <p>Conduct the ESA and arrange for valuation</p> <p>Arrange of compilation of result and announce the results</p> <p>Other responsibilities delegated by the University.</p>
School coordinators/ Heads of the departments	<ul style="list-style-type: none"> • Academic and administrative management of the department. • Providing leadership in both post-graduate and undergraduate courses in relevant field of specialization. • Teaching, Research and research guidance. • Consultancy services. • Policy planning, Monitoring and Evaluation and Promotional activities both at departmental and institutional level. • Participating in Curriculum development and developing resource materials. • Design and development of new programmes. • Continuing education activities. • Interaction with industry and society. • Students counselling and interaction. • Administration both at Departmental and institutional levels. • House keeping • Student and stakeholders' satisfaction • Other responsibilities delegated by the University
Professor	<ul style="list-style-type: none"> • Teaching, Research and research guidance. • Consultancy services. • Policy planning, Monitoring and Evaluation and Promotional activities both at departmental and institutional level. • Participating in Curriculum development and developing resource materials. • Design and development of new programmes. • Continuing education activities.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

	<ul style="list-style-type: none"> • Interaction with industry and society. • Students counselling and interaction. • Administration both at Departmental and institutional levels. • House keeping • Student and stakeholders' satisfaction • Other responsibilities delegated by the University
Associate Professor/Assistant Professor	<ul style="list-style-type: none"> • Teaching, Research and research guidance. • Consultancy services. • Participating in Curriculum development and developing resource materials. • Interaction with industry and society. • Students counselling and interaction. • House keeping • Student and stakeholders' satisfaction • Other responsibilities delegated by the University
Coordinator-AMEC	<ul style="list-style-type: none"> • Monitoring the academic processes across the institution • Preparation of guidelines/work instructions for teaching-learning process • Liaison between department and CSC • Other responsibilities delegated by the Registrar/CSC • Students' and stakeholders' satisfaction • Other responsibilities delegated by the University
Coordinator-HRTC	<ul style="list-style-type: none"> • Identification of Human Resources Training needs • Development of Training Plan • Liaison between department and CSC • Other responsibilities delegated by the Registrar/CSC • Students' and stakeholders' satisfaction • Other responsibilities delegated by the University
Placement Officer	<ul style="list-style-type: none"> • Identification of Placement opportunities • Facilitate in conducting campus interviews • Maintain student and employer database • Liaison between department and CSC • Other responsibilities delegated by the Registrar /CSC • Students' and stakeholders' satisfaction • Other responsibilities delegated by the University
Coordinator-Admissions	<ul style="list-style-type: none"> • Facilitate in student admission • Maintain student records/properties • Liaison between departments and CSC • Other responsibilities delegated by the Registrar/CSC • Students' and stakeholders' satisfaction • Other responsibilities delegated by the University
Coordinator-Library Management	<ul style="list-style-type: none"> • Procurement of books/journals/magazines based on needs • Management of library resources • Liaison between department and CSC • Other responsibilities delegated by the Principal/CSC

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

	<ul style="list-style-type: none"> • Students' and stakeholders' satisfaction
Coordinator- Information Services	<ul style="list-style-type: none"> • Procurement of Equipments and Software • Management of Equipments/Servers/Services • Establish security/protection mechanism at appropriate levels to ensure appropriate Customer/Institutional problems • Liaison between department and CSC • Other responsibilities delegated by the Principal/CSC • Students' and stakeholders' satisfaction
Librarian	<ul style="list-style-type: none"> • General administration of library • Budgeting, Planning and developing the library. • Books, periodicals, videotapes selection and acquisition. • Supervising of cataloguing and indexing. • Maintenance of library books, periodicals, videotapes, catalogues etc. • House keeping • Student satisfaction.
Foreman/Instructor	<ul style="list-style-type: none"> • The Foreman/Instructor is responsible to the workshop superintendent in all matters connected with the workshop instruction, proper utilization of man, materials and machines and maintenance of shop assigned to him. • Erection/Instillation/Commissioning of plant and equipments. • Procurement/Storage Accounting of raw materials tools and instruments. • Planning, scheduling, organizing, coordinating and monitoring workshop tasks. • Arranging for the issue of raw materials, tools and equipments for the workshop jobs. • Plan, deliver and evaluate theoretical, and workshop instruction. • Guide the students in the performance of practical tasks and skill exercises and evaluate their performance. • Arrange for preventive and breakdown maintenance. • Assist students and faculty members in the fabrication of their projects. • Participate in professional development activities. • Assist the workshop superintendent in certain functions as and when necessary. • Student's satisfaction
Assistant Instructor	<ul style="list-style-type: none"> • The Assistant Instructor is responsible to the Foreman/Instructor in all matters connected with instruction, utilization, and maintenance of tools, equipment and materials in the workshop allocated to him. • Procurement/Storage/Accounting of raw materials tools and

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

	<p>instruments.</p> <ul style="list-style-type: none"> • Issue of materials/tools/equipment for shop jobs. • Plan, deliver and evaluate shop instruction. • Guide the students in the performance of practical tasks and skill exercises • Inculcate safety procedures and safety practices among students. • Supervise the maintenance of tools and equipment including preventive and breakdown maintenance. • Assist students and faculty members in the fabrication of their projects. • Student's satisfaction
Technical assistant	<ul style="list-style-type: none"> • The Technical Assistant shall be responsible to the faculty member in charge of the laboratory in all matters connected with running, maintenance and upkeep of laboratory equipment. • Arranging materials, samples, tools instruments and equipments for laboratory/filled work. • Receive stores and issue materials, samples, specimens, tools, instruments and equipment required for laboratory/filled work. • Prepare samples, specimens, circuits, etc. for conducting experiments. • Maintain the tools, equipment and instruments in working condition. • Assist students in conducting experiments or project work. • Student's satisfaction
Attenders	<ul style="list-style-type: none"> • The attendant shall be responsible to assistant instructor/foreman/workshop superintendent.

6.0 Planning

6.1 Actions to Address Risks and Opportunities

KLE Tech considers risks and opportunities when taking actions within the management system, as well as when implementing or improving the management system; likewise, these are considered relative to products and services. Risks and opportunities are identified as part of the

“Context of the Organization” defined as well as throughout all other activities of the QMS, where applicable and Risks and opportunities are managed in accordance with the document.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

(Refer.....). This procedure defines how risks are managed to minimize their likelihood and impact, and how opportunities are managed to improve their likelihood and benefit.

6.2 Quality Objectives and Planning to Achieve Them

KLE Tech's top management has established quality objectives at institutional level. The established objectives are:

- i. To ensure high student achievement in academics.
- ii. To provide a value added education to make students more employable.
- iii. To provide adequate and well qualified staff who will contribute effectively to student learning and organizational development.
- iv. To continually improve student services to promote overall development of student and support systems to create an ambience conducive to learning.
- v. To evolve and implement management and administrative mechanisms that are responsive, reliable and efficient.

The quality objectives are measurable and consistent with the quality policy. Quality Objectives are used as the primary tool of controlling a given process in terms of its performance and effectiveness

Further the departments/cells shall establish functional objectives and key performance indicators to support the institutional quality policy.

Cross Refer: Annexure ANQML104 for KPI at various levels in organization and objectives using form FMMR0104 Rev. 2.0.

The key performance indicators are:

1. Results
2. Staff student ratio
3. Staff qualification indicator
4. Incoming student quality

6.3 Planning of Changes

KLE Tech's top management ensures that:

- a. The planning of the QMS is carried out in order to meet process requirements as well as the quality objectives. The planning focuses on defining the processes needed to effectively and efficiently meet the quality objectives and requirements consistent with the vision of KLE Tech.
- b. The integrity of the QMS is maintained when changes to the QMS are planned and implemented. Changes that may affect the QMS are reviewed during management review meetings. In addition, QMS is revised to reflect any changes discovered during internal/external audits.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

7.0 Support

7.1 Resources

7.1.1 General

KLE Tech, on continuous basis, shall determine and provide the resources needed:

- a) to implement and maintain the management system and continually improve its effectiveness
- b) to enhance customer satisfaction by meeting customer requirements

Resource allocation is done with consideration of the capability and constraints on existing internal resources, as well as needs related to supplier expectations. Resources and resource allocation are assessed during management reviews.

7.1.2 People

The KLE Tech ensures that personnel performing work affecting conformity to product quality requirements are competent on the basis of appropriate education, training, skills and experience. Each school / department maintains appropriate records of education, training, skills and experience in the form of competency matrix . (Cross Refer: QSP02)

The Employee Induction program ensures that all personnel are made aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.

7.1.3 Infrastructure

Requirements for necessary infrastructure such as buildings, workspace and associated utilities, process equipment (both hardware and software), and supporting services such as transport, or communication, or information systems are determined, provided for and maintained to ensure conformity to product requirements. (Cross Refer: QSP 08)

7.1.4 Environment for the operation processes

A conducive working environment which relates to conditions under which work is performed including physical, environmental, and other factors such as noise, temperature, humidity, lighting, or weather is maintained and improved upon in order to ensure conformity to product/ service requirements.

7.1.5 Monitoring and measuring resources & Measurement traceability

KLE Tech has identified the maintenance status of the resources used for product realization. The related documents/records shall be maintained in the respective departments. The identification of non-conforming equipment's, disposition shall be carried out as per QSP15.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

A master list of equipments that needs calibration is maintained and monitored to ensure that calibrations are done at prescribed intervals as determined. Where necessary to ensure valid results, the measuring equipment shall

- Be calibrated to traceable national or international standards, where, in the absence of such standard or vendor, KLE Tech will establish a calibration standard .The basis used for calibration / verification is documented.
- Be adjusted or re-adjusted as necessary.
- Be identified to enable the calibration status to be determined.

The evaluation of newly purchased and in-house developed computer software application is carried out as per procedure described in QSP08.

7.1.6 Organizational Knowledge

KLE Tech on continuous basis determines the knowledge necessary for the operation of its processes and to achieve conformity of products and services. This may include knowledge and information obtained from:

- a) internal sources, such as lessons learned, feedback from subject matter experts, and/or intellectual property;
- b) external sources such as standards, academia, conferences, and/or information gathered from customers or suppliers.

This knowledge shall be maintained, and made available to the extent necessary. When addressing changing needs and trends, KLE Tech shall consider its current knowledge and determine how to acquire or access the necessary additional knowledge.

7.2 Competence

To ensure the competency of personnel within the quality management system, the organization determines the necessary competency requirements, provides training or take other actions to achieve the necessary competence, and evaluates the effectiveness of the actions taken. Appropriate records of education, training, skills and experience are maintained. (QSP 02)

7.3 Awareness

Training and subsequent communication ensure that staff are aware of:

- a) the quality policy;
- b) relevant quality objectives;
- c) their contribution to the effectiveness of the management system, including the benefits of improved performance;
- d) the implications of not conforming with the management system requirements.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

7.4 Communication

KLE Tech employs many modes of internally/ external communicating the issues related to quality. These include face-to-face meetings, workshops, reports, circulars and e-mails. The method used is determined based on the issue and the parties involved

7.5 Documented information

The KLE Tech quality management system documentation is made up of statements of Quality policy and Quality objectives, a Quality manual, documented procedures and records required, and other documents, including records, which are necessary to ensure the effective planning, operation and control of the quality management system's processes. (Refer Annexure ANQML103 for Documentation Triangle)

- Quality Manual

This quality management system manual describes the scope of the quality management system, including details of and justification for any exclusions, includes references to the documented procedures established for the quality management system, and describes the interactions of the process of the quality management system. A documented procedure has been established to define the controls needed to:

- Approve documents for adequacy prior to issue
- Review and update as necessary and re-approve documents
- Ensure that the changes and the current revision status of documents are identified
- Ensure that relevant versions of applicable documents are available at points of use
- Ensure that documents of external origin are identified and their distribution controlled
- Prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose
- Records are established to provide evidence of conformity to requirements and of the effective operation of the quality management system

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

- A documented procedure has been established to define the controls needed for the identification, storage, protection, retrieval, retention, and disposition of records
- Records are maintained in order to ensure that they remain legible and are readily identifiable and retrievable.

8.0 Operation

8.1 Operational Planning and Control

The product realization elements of KLE Tech QMS are primarily the responsibility of the schools / departments/process groups who own the processes. These schools / departments / cells carry out the processes in accordance with the documented quality system procedures as per QSP01, QSP02, QSP03, QSP04, QSP05, QSP06, QSP07, QSP09 and QSP18.

KLE Tech plans and controls the service delivery. It has identified Curriculum Design, CoE, Term Plan, Teaching Plan and Course Monitoring as the processes to ensure the delivery of its services.

KLE Tech has identified the following inputs.

- Functional and performance requirements in the form of curriculum design and calendar and roles and responsibilities of staff
- Applicable statutory and regulatory requirements in the form of University guidelines, rules and regulations and
- Value addition programmes for overall development of students/staff.

KLE Tech has identified the following outputs.

- Curriculum design
- Term Plan consisting of course content, course scheme, Calendar of Events, Timetable, Subject allotment, Classroom/Lab. allotment
- Teaching Plan consisting of Lesson plan, Lab. plan
- Course Monitoring consisting of Attendance, Lesson delivery, Minor exam performance, Student feedback.

The review of service delivery involves the review of Calendar of Events, Term plan, Teaching plan and Course monitoring.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

The verification of service delivery is carried out by periodic review of delivery progress with reference to Term plan and Teaching plan as per Course Monitoring.

8.1 Requirements for products and services

8.2.1 communication

KLE Tech has implemented effective communication with customers in relation to:

- providing information relating to services
- obtaining customer feedback relating to products and services, including customer complaints;
- handling or controlling customer property;
- establishing specific requirements for contingency actions, when relevant.

KLE Tech's top management determines and implements effective arrangements for communicating with students in relation to service/product information, continuous improvement plan requirements, and student feedbacks.

8.2.2 Determining the requirements of products and services

KLE Tech's top management determines the requirements of students from time to time based on the inputs drawn from various sources:

Board of studies, Internal feedback mechanisms, Class committee meetings.

8.2.3 Review of Requirements of products and services

KLE Tech's top management reviews the requirements related to the service/product with respect to

- curriculum
- delivery mechanism,
- feedback from students.

KLE Tech retain the documented information, as applicable

- a. on the basis of results of review
- b. on any new requirements for the products and services

8.2.4 changes to requirements for products and services

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

KLE Tech shall ensure that relevant documented information is amended, and that relevant persons are made aware of the changed requirements, when the requirements for products and services are changed. (QSP 11, QSP 12)

8.3 Design and development of Products and Services (Cross Ref: QSP 20)

8.3.1 General

The KLE Tech shall establish, implement and maintain a design & development process that is appropriate to ensure the subsequent provision of product and services.

8.3.2 Curriculum Design and Development Planning

In planning and controlling the design and development of a curriculum, the KLE Tech determines the;

- design and development stages,
- review, verification and validation that are appropriate to each design and development stage, and
- responsibilities and authorities for design and development.

Curriculum design and development review, verification are conducted and recorded separately as suitable for the product and the organization and the validation of program education objective is conducted and reviewed respectively.

The interfaces between different groups involved in design and development are controlled appropriately to ensure effective communication and clear assignment of responsibility and the planning output are updated, as appropriate, as the curriculum design and development progresses.

8.3.3 Curriculum Design and development Inputs

Inputs relating to product requirements are determined and records maintained. The inputs include

- functional and performance requirements,
- applicable statutory and regulatory requirements,
- where applicable, information derived from previous similar designs and development activities
- potential consequences of failure (where available)
- other requirements essential for design and development.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

These inputs are reviewed for adequacy to ensure that they are complete, unambiguous and not in conflict with each other.

8.3.4 Curriculum Design and Development Outputs

The outputs of design and development enable suitable verification to be performed against the design and development inputs and are approved prior to release.

The organization ensures that all design and development outputs

- meet the input requirements for design and development,
- provide appropriate information for purchasing, production, service provision and details for the preservation of product.
- contain or reference product acceptance criteria, and
- specify the characteristics of the product that are essential for its safe and proper use.

8.3.5 Curriculum Design and Development Controls

Systematic reviews of design and development are performed in accordance with planned arrangements at suitable stages. These reviews are conducted for the purposes of evaluating the ability of the results of design and development to meet requirements, and identifying any problems and propose necessary actions.

Participants in such reviews include representatives of functions concerned with the design and development stages being reviewed.

Records of the results of the reviews and any necessary actions are maintained.

Verification is performed in accordance with planned arrangements to ensure that the design and development outputs have met the design and development input requirements.

Records of the result of the verification and any necessary actions are maintained.

Design and development validation is performed in accordance with planned arrangements to ensure that the resulting product can meet the requirements for the specified application or intended use, when known. Wherever practicable, validation shall be completed prior to the delivery or implementation of the product.

Records of the results of validations and any necessary actions are maintained.

8.3.5 Control of design and development changes

Design and development changes are identified and records maintained. The changes are reviewed, verified and validated, as appropriate, and approved before implementation.

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

The review of design and development changes includes evaluation of the effect of changes on constituent parts and product already delivered.

Records of the results of the review of changes and any necessary actions are maintained.

8.4 Control of externally provided processes, products and services

8.4.1 General

KLE Tech ensures that purchased product and services conform to specified purchase requirements. The type and extent of control applied to the external supplier and the purchased product and services is dependent upon the effect of purchased product and services on subsequent process realization or service delivery.

8.4.2 Type and Extent of Control & information for External Provider

KLE Tech has defined documented procedures to ensure that purchased products (hardware, software, material, service, or a combination thereof) conform to specified requirements. KLE Tech reviews and approves purchasing documents for adequacy of the specified requirements prior to release (Cross Ref: QSP 08).

KLE Tech evaluates and selects suppliers based on their ability to provide product/service in accordance with the organization's requirements. The criteria for selection and re-evaluation are established and maintained. KLE Tech establishes and maintains records of results of evaluations and any necessary actions arising from evaluation

All purchasing and procurement is performed in accordance with applicable regulations.

KLE Tech identifies the sources for purchase and maintain all related records. Purchases would be made based on these records.

KLE Tech has established and implemented the activities necessary for ensuring that purchased products or services meet requirements & ensures the purchases are carried out in accordance with the purchase process as per QSP08.

8.5 Production and Service Provision (Cross Ref: QSP 03)

8.5.1 Control of Production and Service Provision

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

KLE Tech has implemented production & service provision under controlled conditions. Controlled conditions includes:

- availability of documented information that defines the characteristics of the products to be produced, the services to be provided, activities to be performed and the results to be achieved.
- availability and use of suitable monitoring & measuring resources.
- the implementation of monitoring and measurement activities at appropriate stages to verify that criteria for control of processes or outputs, and acceptance criteria for products and services, have been met.
- The use of suitable infrastructure and environment for the operation of processes.
- appointment of competent persons, including any required qualifications.
- While carrying out the production, the resulting output can be verified by subsequent monitoring or measurement, hence the requirement of validation and periodic revalidation is not applicable.
- the implementation of actions to prevent human error.(Ref: Operational Control procedures, Quality Plans, Production Plans etc).
- the implementation of release, delivery and post-delivery activities.

8.5.2 Identification & Traceability

There are no such services, which require in process identification. However, top management of KLE Tech and School coordinators/ HODs ensure identification of documents, which result in service/product realization throughout its life cycle as per QSP11 and QSP12. Traceability of documents used for service/product realization as per QSP11 and QSP12.

8.5.3 Property belonging to customer or external provider (Cross Ref: QSP 09)

Wherever applicable, KLE Tech shall exercise control on student property by suitably identifying, verifying, protecting and safeguarding the same through appropriate method. If the student property is found to be lost, damaged or found to be unsuitable for use, the same shall be reported to the student and appropriate records shall be maintained.

8.5.4 Preservation

KLE Tech preserves conformity of product or other process outputs during internal processing and delivery. This preservation includes identification, handling, packaging, storage, and protection.

8.5.5 Post-Delivery activities

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

KLE Tech shall meet the requirement for post-delivery activities associated with the products & services.

The KLE Tech shall engage with the students to determine if the product was to their satisfaction.

Through online end to end ERP system adopted on the campus, university will analyse the data pertaining to achievement of program outcomes and initiate the required corrective measures based on the analysis.

8.5.6 Control of Changes

The KLE Tech shall review and control changes for production or service provision where all applicable to ensure the continuing conformity with requirements.

8.6 Release of Products and Services

KLE Tech shall implement planned arrangements, at appropriate stages, to verify that the product and service requirements have been met.

The release of the products services to the customer shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, as applicable, by the customer.

8.7 Control of nonconforming outputs (Cross Ref: QSP 15)

8.7.1 KLE Tech ensures that output which do not conform to their requirements are identified and controlled to prevent unintended use or delivery.

A documented procedure is established to define the controls and related responsibilities and authorities for dealing with nonconforming outputs.

Where applicable, KLE Tech deals with nonconforming outputs by one of the following ways:

- taking action to eliminate the detected nonconformity;
- authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
- taking action to preclude its original intended use or application;
- taking action appropriate to the effects, or potential effects, of the nonconformity when nonconforming output is detected after delivery or use has started.

When nonconforming product is corrected, it is subjected to re-verification to demonstrate conformity to requirements.

8.7.2 Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained.

9.0 Performance Evaluation (Cross Ref: QSP 13)

9.1 Monitoring, Measurement, analysis and evaluation

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

9.1.1. General

KLE Tech plans and implements necessary monitoring, measurement, analysis and improvement processes needed to;

- demonstrate conformity to product requirements,
- ensure conformity of the quality management system, and
- continually improve the effectiveness of the quality management system.

These processes include determination of applicable methods, including statistical techniques, and the extent of their use.

9.1.2 Customer satisfaction

Information relating to customer perception is monitored and measured to quantify customer satisfaction levels.

Monitoring customer perception may include obtaining input from sources such as

- Institutional Feedback collected once in a year
- Formative and summative students feedback collected twice in a semester,
- Class committee meetings,
- Grievance redressal

9.1.3 Analysis and evaluation

Data from monitoring and measurement activities are collected and analyzed to demonstrate the suitability and effectiveness of the quality management system and evaluate where continual improvement of the effectiveness of the quality management system can be made. These data include data generated as a result of monitoring and measurement and from other relevant sources, as applicable.

The analysis of data provides information relating to;

- Conformity of products and services
- The degree of customer satisfaction
- The performance and effectiveness of the quality management system
- If planning has been implemented effectively
- The effectiveness of actions taken to address risks and opportunities
- The performance of external providers
- The need for improvements to the quality management system.

9.2 Internal audit (Cross refer: QSP 14)

9.2.2 Internal audits are conducted at planned interval to determine whether the quality management system

- conforms to the quality management system requirements,
- conforms to the requirements of the ISO 9001:2015 International Standard, and
- is effectively implemented and maintained.

9.2.2. The audit programme is planned accordingly, taking into consideration

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

the status and importance of the processes and areas to be audited, as well as the results of previous audits.

- The audit criteria, scope, frequency and methods are defined.
- Auditors are ensured to be objective, impartial and independent of the area being audited.
- A documented procedure is established to define the responsibilities and requirements for planning and conducting audits, establishing records and reporting results.
- Records of the audits and their results are maintained and will be part of management review meeting.
- The management responsible for the area being audited ensures that any necessary corrections and corrective are taken without undue delay to eliminate detected nonconformities and their causes.
- Follow-up activities include the verification of the actions taken and the reporting of verification results.

9.3 Management Review

9.3.2 General

KLE Tech's s Top management reviews the quality management system at least twice the year to ensure its continuing suitability, adequacy and effectiveness.

This review includes assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives.

Records such as meeting minutes and supplemental documents from management reviews are maintained.

9.3.3 Management Review input

The inputs to a management review include information on;

- follow-up actions from previous management reviews,
- Changes in external and internal issues that are relevant to the quality management system,
- Information on the performance and effectiveness of the quality management system, including trends in;
 - Customer satisfaction and feedback from relevant interested parties,
 - The extent to which quality objectives have been met
 - Process performance and conformity of products and services
 - Nonconformities and corrective actions
 - Monitoring and measurement results
 - Audit results
 - The performance of external providers
- The adequacy of resources,

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

- The effectiveness of actions taken to address risks and opportunities
- Opportunities for improvement.

9.3.4 Management Review output

The outputs from the management review include decisions and actions related to the

- improvement of the effectiveness of the quality management system and its processes,
- improvement of product related to customer requirements, and
- resource needs.

Records of management reviews are maintained.

10 Improvement (Cross refer: QSP 15)

10.1 KLE Tech uses the Quality management system to improve the effectiveness of its processes, products and services. Such improvements aim to address the needs and expectations of customers as well as other interested parties, to the extent possible.

Improvement shall be driven by an analysis of data related to:

- conformity of products and services;
- the degree of customer satisfaction;
- the performance and effectiveness of the management system;
- the effectiveness of planning;
- the effectiveness of actions taken to address risks and opportunities;
- the performance of external providers;
- other improvements to the management system.

10.2 Nonconformity and Corrective Action

KLE Tech takes corrective action to eliminate the cause of nonconformity in order to prevent recurrence. Likewise, the university takes preventive action to eliminate the causes of potential nonconformities in order to prevent their occurrence.

KLE Tech is committed to continually improve the effectiveness of the quality manage system by the realization of quality policy, quality objectives, audit results, analysis of data, corrective actions and management review.

Improvement efforts are carried at various levels to identify ways and means to enhance the effectiveness of the processes and practices.

KLE Tech takes appropriate action to eliminate the causes of nonconformities to prevent recurrence.

When a nonconformity occurs, shall:

- react to the nonconformity and take action to control and correct it

KLE Technological University			
Document title	Quality Management System Manual ISO 9001-2015		
Document originator	Director-IQAC	Effective date	01.01.2018
Document No	QMSM-001-2018	Revision	3.0

- deal with the consequences
- reviewing nonconformities including customer complaints,
- determining the causes of nonconformities,
- evaluating the need for action to ensure that nonconformities do not recur,
- determining and implementing action needed,
- records of the results of action taken,
- update risks and opportunities determined during planning, if necessary and
- reviewing the effectiveness of the corrective action taken.

KLE Tech retains the documented information as evidence of the nature of nonconformities and any subsequent actions taken and the results of any corrective action

10.3 Continual Improvement

Through the process effectiveness reviews, done as part of Management Review, KLE Tech continually improve the suitability, adequacy and effectiveness of the quality management system. This includes seeking opportunities for improvement.
